

AMENDMENTS TO THE SPECIFICATION:

Pages 7-10, paragraph [0011], please amend as follows:

[0011]

The invention is specified as follows.

- (1) A resin composition (D), characterized by containing from 1 to 99 parts by weight of an aliphatic polyester resin (A) and from 99 to 1 parts by weight of a polyolefin resin (B) (provided that the sum of (A) and (B) is 100 parts by weight), and from 0.1 to 100 parts by weight of a modified polyolefin resin (C) to 100 parts by weight of the sum of (A) and (B).
- (2) The resin composition (D), characterized in that the modified polyolefin resin (C) contains at least one selected from the group consisting of (C-1), (C-2) and (C-3) in an amount of from 0.1 to 100 parts by weight;
(C-1) a copolymer having a structure that a propylene-based polyolefin segment (a) and a segment (b) containing lactic acid as a constituent are bonded in a block state and/or a graft state through a covalent bond, wherein a number average molecular weight of the propylene-based polyolefin segment (a) is from 1,000 to 100,000, a number average molecular weight of the segment ~~(a)~~ (b) containing lactic acid as a constituent is from 1,000 to 200,000, and a weight composition of the propylene-based polyolefin segment (a) and the segment (b) containing lactic acid as a constituent is from 10/90 to 90/10,
(C-2) a copolymer having a structure that a segment containing an acrylic unit as a constituent and an ethylene-based polyolefin segment are bonded in a block state and/or a graft state and/or a random state through a covalent bond, and
(C-3) a copolymer having a structure that a segment containing an acrylic unit as a constituent and a propylene-based polyolefin segment are bonded in a block state and/or a graft state and/or a random state through a covalent bond.
- (3) A modified polyolefin resin (C-1) comprising a copolymer having a structure that a propylene-based polyolefin segment (a) and a segment (b) containing lactic acid as a constituent are bonded in a block state and/or a graft state through a covalent bond, wherein a number average molecular weight of the propylene-based polyolefin segment ~~(b)~~ (a) is from 1,000 to 100,000, a number average molecular weight of the segment ~~(a)~~ (b) containing lactic acid as a constituent is from 1,000 to

200,000, and a weight composition of the propylene-based polyolefin segment (a) and the segment (b) containing lactic acid as a constituent is from 10/90 to 90/10.

(4) A method of producing the modified polyolefin resin (C-1) according to above (1) to (3), characterized in that a monomer containing lactide or lactic acid is polymerized with a polyolefin resin in the presence of a modified polyolefin resin having a hydroxyl group-containing vinyl monomer grafted thereon, or a polymer of a vinyl monomer and a monomer containing lactide or lactic acid and a polyolefin are reacted.

(5) The resin composition (D) according to the above (1) and (2), wherein the modified polyolefin resin (C-2) is a copolymer having a segment containing an acrylic acid unit as a constituent and an ethylene-based polyolefin block.

(6) The resin composition (D) according to the above (1) and (2), wherein the modified polyolefin resin (C-2) is a copolymer having a segment containing a methyl methacrylate unit as a constituent and an ethylene-based polyolefin block.

(7) The resin composition (D) according to the above (1) and (2), wherein the modified polyolefin resin (C-3) is a copolymer having a segment containing an acrylic acid unit as a constituent and a propylene-based polyolefin block.

(8) The resin composition (D) according to the above (1) and (2), wherein the modified polyolefin resin (C-3) is a copolymer having a segment containing a methyl methacrylate unit as a constituent, and a propylene-based polyolefin block.

(9) A resin composition (D), characterized by obtaining from a resin composition containing from 40 to 99 parts by weight of an aliphatic polyester resin (A), from 60 to 1 parts by weight of a polyolefin resin (B) (provided that the sum of (A) and (B) is 100 parts by weight), and as a modified polyolefin resin (C), from 0.1 to 50 parts by weight of at least one selected from the group consisting of (C-1), (C-2) and (C-3) to 100 parts by weight of the sum of (A) and (B), and having a softening temperature of 60°C or higher.

(10) A resin composition (D), characterized by obtaining from a resin composition containing from 40 to 99 parts by weight of an aliphatic polyester resin (A), from 60 to 1 parts by weight of a polyolefin resin (B) (provided that the sum of (A) and (B) is 100 parts by weight), and as a modified polyolefin resin (C), from 0.1 to 50 parts by weight of at least one selected from the group consisting of (C-1), (C-2) and (C-3) to

100 parts by weight of the sum of (A) and (B), and having Izod impact strength of 100 J/m or more.

- (11) An automobile material part comprising the resin composition (D) according to the above (1).
- (12) A home electric appliance material part comprising the resin composition (D) according to the above (1).
- (13) An electrical/electronic material part comprising the resin composition (D) according to the above (1).

Effect of the Invention

Pages 16-18, paragraph [0023], please amend as follows:

[0023]

[Modified polyolefin resin (C)]

The modified polyolefin resin (C) according to the invention is a copolymer having a structure that a polyolefin segment and a segment having polarity other than olefin are bonded in block state and/or graft state and/or random state. The segment having polarity can change its molecular chain length according to the object, and may be a monomer or a polymer. Those may be used alone or as mixtures thereof. The modified polyolefin resin (C) is preferably a copolymer having a structure that a polyolefin segment, a segment containing lactic acid as a constituent, and/or a segment containing an acrylic unit as a constituent are bonded in block state and/or graft state and/or random state through a covalent bond, and is more preferably (C-1), (C-2) and/or (C-3) described below. Further, those may be used alone or as mixtures thereof.

(C-1)

(C-1) is a copolymer having a structure that a propylene-based polyolefin segment (a) and a segment (b) containing lactic acid as a constituent are bonded in a block state and/or a graft state through a covalent bond, wherein a number average molecular weight of the propylene-based polyolefin segment-(b) (a) is from 1,000 to 100,000, a number average molecular weight of the segment-(a) (b) containing lactic acid as a constituent is from 1,000 to 200,000, and a weight

composition of the propylene-based polyolefin segment (a) and the segment (b) containing lactic acid as a constituent is from 10/90 to 90/10.

(C-2)

(C-2) is a copolymer having a structure that a segment containing an acrylic unit as a constituent and an ethylene-based polyolefin segment are bonded in a block state and/or a graft state and/or a random state through a covalent bond.

(C-3)

(C-3) is a copolymer having a structure that a segment containing an acrylic unit as a constituent and a propylene-based polyolefin segment are bonded in a block state and/or a graft state and/or a random state through a covalent bond.

Pages 53-54, paragraph [0092], please amend as follows:

[0092]

[Production Example 1]

[Synthesis of modified polypropylene resin (PP-HEMA) on which 2-hydroxyethyl methacrylate (HEMA) is graft reacted]

100 parts by weight of a propylene homopolymer powder having a melt flow rate (MFR: 230°C, 2,160 g) of 0.02g/10 min, an intrinsic viscosity $[\eta]$ measured in 135°C decalin of 10.5 dl/g, and an accumulated pore volume of 0.25 cc/g, 3 parts by weight of 2-hydroxymethyl 2-hydroxyethyl methacrylate (HEMA) and 3 parts by weight of t-butyl peroxybenzoate (PBZ: a product of JOF Corporation) were dry blended with a Henschel mixer, and thereafter melt modified at 210°C using a two screw kneading machine (Technobell, ZSK-30) to obtain a modified polypropylene resin (hereinafter, PP-HEMA) pellets. Number average molecular weight (M_n) by GPC measurement of this modified polypropylene resin was 31,000. MFR was 450 g/10 min, $[\eta]$ was 0.80 dl/g, and HEMA graft amount measured with NMR after purification removing unreacted HEMA was 1.7% by weight.

Pages 55-56, paragraph [0096], please amend as follows:

[0096]

[Production Example 3]

[Synthesis of polylactic acid (HEMA-PLA) having double bond at terminal]

After adding 0.65 g (5.0 mmol) of 2-hydroxymethacrylate 2-hydroxyethyl methacrylate, 50.4 g (350 mmol) of L-lactide, 22.0 mg (0.22 mmol) of hydroquinone, and 2.5 mg (0.5 g of 0.5 wt% xylene solution was added) of tin octanoate, reaction was conducted at 170°C/1 atm for 4 hours under nitrogen atmosphere, and thereafter, the reaction mass was cooled. After dissolving the reaction product in 250 ml of chloroform, it was precipitated in methanol while stirring, and residual L-lactide was removed by well stirring. Suction filtration was conducted. Rinse washing was conducted with methanol, and drying was conducted at 60°C and 2 kPa for 24 hours to obtain 50.1 g of polylactic acid (HEMA-PLA) having a number average molecular weight (Mn) of 9,150 and having a double bond at the terminal.

Pages 58-59, paragraph [0099], please amend as follows:

[0099]

[Production Example 5]

[Synthesis of polyethylene-polymethyl methacrylate block copolymer (C-2-1)]

To 500 mL glass reactor equipped with Dimroth condenser and a stirring rod sufficiently substituted with nitrogen gas, 15.0 g of the terminal esterified polymer produced in Production Example 3 Example 4, 45.3 ml of methyl methacrylate (MMA) and 50 ml of o-xylene were placed, and elevated to 80°C while slowly stirring. A uniform solution obtained by mixing 167 mg of copper (I) bromide, 1.1 ml of 2M N,N,N',N'',N'''- pentamethyldiethyl triamine/o-xylene solution, and 5.0 ml of o-xylene in a separate Schrenck bottle substituted with nitrogen was introduced in a polymerization vessel, temperature was elevated to 120°C, and polymerization of MMA was initiated while stirring at 450 rpm. After 4.5 hours, because viscosity increased, 200 ml of toluene was additionally added, and stirring was conducted at 100°C for 1 hour. Thereafter, the polymerization reaction solution was poured in 2.0 L of methanol to precipitate a polymer. The precipitated polymer was filtered off with a glass filter, and dried under the reduced pressure conditions of 80°C and 2.0 kPa (15 Torr) for 10 hours.

Pages 59-60, paragraph [0101], please amend as follows:

[0101]

[Production Example 6]

[Synthesis of polyethylene-polymethyl methacrylate block copolymer (C-2-2)]

To 500 mL glass reactor equipped with Dimroth condenser and a stirring rod sufficiently substituted with nitrogen gas, 77.0 g of the terminal esterified polymer synthesized in the method shown in Production-Example 3 Example 4, 86.9 ml of methyl methacrylate (MMA) and 324 ml of o-xylene were placed, and elevated to 80°C while gradually stirring. A uniform solution obtained by mixing 855 mg of copper (I) bromide, 5.4 ml of 2M N,N,N',N'',N'''-pentamethyldiethyl triamine/o-xylene solution, and 5.0 ml of o-xylene in a separate Schrenck bottle substituted with nitrogen was introduced in a polymerization vessel, temperature was elevated to 120°C, and polymerization reaction of MMA was initiated while stirring at 450 rpm. After 3.5 hours, 200 ml of toluene was additionally added, and stirring was conducted at 100°C for 1 hour. Thereafter, the polymerization reaction solution was poured in 2.0 L of methanol to precipitate a polymer. The precipitated polymer was filtered off with a glass filter, and dried under the reduced pressure conditions of 80°C and 2.0 kPa (15 Torr) for 10 hours.

Pages 62-63, paragraph [0107], please amend as follows:

[0107]

[Production Example 9]

[Synthesis of polypropylene-polymethyl methacrylate block copolymer (C-3-2)]

A 500 mL glass-made reactor equipped with Dimroth condenser and a stirring rod was sufficiently substituted with nitrogen gas, 17.3 g of the terminal esterified polypropylene obtained in the same method as described in Production-Example 3 Example 7, 48.5 ml of methyl methacrylate (MMA) and 58.7 ml of o-xylene were placed, and temperature was elevated to 120°C while gradually stirring. A uniform solution obtained by mixing 60 mg of copper (I) bromide, 0.38 ml of 2M N,N,N',N'',N'''-pentamethyldiethyl triamine/o-xylene solution, and 5.0 ml of o-xylene in a separate Schrenck bottle substituted with nitrogen was introduced in a polymerization vessel, and polymerization reaction of MMA was initiated while stirring at 120°C and 350

rpm. After 7.0 hours, 150 ml of toluene was added to dilute, 20 ml of isobutyl alcohol was added, and temperature was cooled to room temperature. The polymerization reaction solution was poured in 1.5 L of methanol to precipitate a polymer. The precipitated polymer was filtered off with a glass filter, and after washing with 20 ml of methanol two times, dried under the reduced pressure conditions of 80°C and 2.0 kPa (15 Torr) for 10 hours.

Pages 72-73, paragraph [0122], please amend as follows:

[0122]

[Example 11]

A molded article-(D-3) (E-3) was obtained by conducting mixing and molding in the same manner as in Example 10, except for using 85% by weight, that is, 89.5 parts by weight, of a polylactic acid manufactured by Mitsui Chemicals, Inc. (registered trade name LACEA, Grade H100), 10% by weight, that is, 10.5 parts by weight, of an ethylene butene copolymer manufactured by Mitsui Chemicals, Inc. (registered trade mark TAFMER, Grade A4050), and 5% by weight, that is, 5.3 parts by weight, of the above polyethylene-polymethyl methacrylate block copolymer (C-2-2). Izod impact strength (23°C, notched) of the molded article-(D-3) (E-3) obtained measured according to ASTMD256 was 382 J/m, and it was semi-ruptured.

Page 81, paragraphs [0133], please amend as follows:

[0133]

[Example 17]

50%-50 parts by weight of a polylactic acid manufactured by Mitsui Chemicals, Inc. (registered trade name LACEA, Grade H280), 50 parts by weight of a block polypropylene manufactured by Mitsui Chemicals, Inc. (registered trade mark MITSUI POLYPRO; MFR measured at 230°C: 25 g/10 min, specific gravity: 0.91, amount of component soluble in normal decane: 8%), and 5 parts by weight of the above copolymer (C-1-3) were mixed, kneaded under the conditions of a temperature of 200°C, a time of 5 minutes and a number of revolutions of 100 rpm using Laboplast mill manufactured by Toyo Seiki Kogyo Co., pressed under the conditions of a pressure of 1.0 MPa 10 MPa (100 kg/cm²) and a pressurizing time of

5 minutes, and then quenched to obtain a yellowish-white semitransparent sheet. Thereafter, by strongly stretching in uniaxial direction 4 times or more in area ratio at 120°C, a white glossy film was obtained. As a result of observing with a scanning electron microscope, cavity that the polylactic acid and the polypropylene peeled at the interface was less than 10 µm, and it was a sufficient film as a reflective material film.

Page 82, paragraph [0134], please amend as follows:

[0134]

[Comparative Example 7]

Similar to Example 17 except for not adding the copolymer (C-1-3), 50% 50 parts by weight of a polylactic acid manufactured by Mitsui Chemicals, Inc. (registered trade name LACEA, Grade H280)[[,]] and 50 parts by weight of a block polypropylene manufactured by Mitsui Chemicals, Inc. (registered trade mark MITSUI POLYPRO; MFR measured at 230°C: 25 g/10 min, specific gravity: 0.91, amount of component soluble in normal decane: 8%), and 5 parts by weight of the copolymer (C-1-3) were mixed and kneaded under the conditions of a temperature of 200°C, a time of 5 minutes and a number of revolutions of 100 rpm using Laboplast mill manufactured by Toyo Seiki Kogyo Co., pressed under the conditions of a pressure of 10 MPa (100 kg/cm²) and a pressurizing time of 5 minutes, and then quenched to obtain a yellowish-white semitransparent sheet. Thereafter, when it was strongly stretched in uniaxial direction 4 times or more in area ratio at 120°C, the film obtained was a film free from gloss. As a result of observing with a scanning electron microscope, cavity that the polylactic acid and the polypropylene peeled at the interface exceeded 50 µm, and it was an insufficient film as a reflective material film.

Industrial Applicability